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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/541,619

07/07/2005

Masaharu Takada

P70693US0

7831

136 7590 06/09/2009

JACOBSON HOLMAN PLLC  
400 SEVENTH STREET N.W.  
SUITE 600  
WASHINGTON, DC 20004

EXAMINER

COHEN, JODI F

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

06/09/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/541,619	<b>Applicant(s)</b> TAKADA ET AL.	
	<b>Examiner</b> Jodi Cohen	<b>Art Unit</b> 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02/12/2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 7-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 04/10/2009 has been entered.

### ***Claim Rejections - 35 USC § 112***

2. Claims 17-19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification as originally filed did not convey that the paste material is not a poly(vinyl chloride). Original claim 16 actually specified that the paste material is a poly(vinyl chloride) thus claims 17-19 are not considered to be supported by the specification as originally filed. Applicant should note, simply because a preferred method or substance may be recognized among others, other known or obvious methods or substances are not automatically ruled out of the realm of possibilities to one of ordinary skill in the art.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 7-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okuda JP 06 198152 (cited here in Okuda et al. US 6,538,040 and referred to as '040 herein after) and further in view of Cobbs Jr. et al. (US 4,778,631) referred to as '631 herein after.

Regarding claims 7, 10, 14, '040 discloses a method for producing an expandable material using a piston pump (45A or 45B) having a cylinder (451) and a piston (452) adapted to reciprocally move within the cylinder to effect a suction stroke and a discharge stroke. '040 further discloses the method for producing an expandable material comprising the steps of:

supplying a gas at a pressure higher than that of the high-viscosity material it is being supplied to, wherein pressure of the gas supplied to the cylinder under a predetermined pressure by effecting the suction stroke is 0.1-5 kg/cm<sup>2</sup> (Col 6; lines 47-50)

discharging the foamed material from a dispersing pipe and;

operating the piston pump device via a control device (19) (Col3; line 34-Col 4; line 68);

supplying a high-viscosity paste material to the cylinder to mix with the low-pressure gas and produce a gas-mixed material. '040 does not disclose the composition or properties of the high-viscosity paste material however; '040 teaches using a hot-melt material such as that described in JP 63-264327 also published as Cobbs Jr. et al. (US 4,778,631) (Col 1; lines 43-46).

'040 discloses a piston pump and specifically teaches using a hot-melt material such as that in '631 thus it would have been obvious to one of ordinary skill in the art to use the hot-melt adhesive of '631 in the method discussed above because '040 specifically cites the use of the hot-melt adhesive described in '631.

It has been established that it would have been obvious to one of ordinary skill in the art to use the adhesive of '631 in the method of producing an expandable material as taught by '040, however '040 does not teach the specific viscosity and shear rate properties of the hot-melt material as defined in claim 7 of the present application.

'631 discloses using a high viscosity hot melt thermoplastic adhesive to produce an expandable, wherein the adhesive has high-viscosities ranging from 22 poises-400 poises, 500 poises to above 10,000 poises and is considered a one-pack-type curing paste material. '631 clearly discloses the hot-melt material containing viscosities within the ranges of those in applicant's claims, unfortunately '631 is silent about the shear rate at these viscosities. However, the effect of shear rate on viscosity is a known relationship for shear thinning fluids and thus it would have been obvious to one of ordinary skill in the art through routine experimentation to alter the shear rate in order to

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achieve the desired high viscosities '404 specifies are necessary to operate with the piston pump to obtain a desired product.

Regarding claims 8-9, 11-13, in further view of the discussion above the method and apparatus of '404 is specifically for discharging a foamed hot-melt type adhesive product from the dispersing pipe by the use of curable polymers such as described in '631 (Col 1; lines 43-46 of '404 and Col 6; lines 5-53 of '631).

Regarding claims 15-16, '631 discloses a thermosetting material that can be cured by heat, a catalyst or other chemical means. A person of ordinary skill in the art would appreciate this to include vulcanization-crosslinking and photo/radiation-curable material, especially wherein '631 goes on to include examples of thermosetting, thermoplastic materials to include polyethylene, polypropylene, polybutylenes, polystyrenes, polyvinyl chloride, polyolefin, polyester, epoxy polymers, acrylic resins and specifically room temperature vulcanizing rubbers (Col 6; lines 20-52).

Regarding claims 17-19, it would have been obvious to one of ordinary skill in the art to substitute any of the known thermosetting materials listed by '631 for the polyvinyl chloride because '631 teaches any of these materials to be used for the invention as discussed above.

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 7-19 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jodi Cohen whose telephone number is 571-270-3966. The examiner can normally be reached on Monday-Friday 7:00am-5:00pm Eastern.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason L Lazorcik/  
Examiner, Art Unit 1791

/Jodi F. Cohen/  
Examiner, Art Unit 1791